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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/977,005	10/12/2001	Levent Demirekler	14573MDUS01U	2651

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**BROMBERG & SUNSTEIN LLP**  
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EXAMINER
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HAROLD, JEFFEREY F

ART UNIT	PAPER NUMBER
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2644

DATE MAILED: 10/08/2003

5

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/977,005

Applicant(s)

DEMIREKLER ET AL.

Examiner

Jefferey F. Harold

Art Unit

2644

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,9 and 17 is/are rejected.
- 7) ☒ Claim(s) 2-8 and 10-16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 October 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Art Unit: 2644

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 102***

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

1. ***Claims 1, 9 and 17*** are rejected under 35 U.S.C. 102(e) as being anticipated by Younce et al (United States Patent 6,240,180), hereinafter referenced as Younce.

Regarding **claim 1**, Younce discloses an echo canceller employing dual-h architecture having split adaptive gain. In addition, Younce discloses a process for canceling an echo component of a received signal, the process consists of:

detecting the active regions of an echo channel impulse response, as disclosed at column 10, line 57 through column 11, line 4;

filtering the signal corresponding to the active regions of the echo channel impulse response user a first set of filter coefficients, a disclosed at column 11, lines 4-58 and exhibited in figure 7.

Regarding **claims 9 and 17**, Younce discloses everything claimed, in addition, claims 9 and 17 are interpreted and thus rejected for the reasons set forth above in the rejection of claim 1.

### ***Allowable Subject Matter***

2. ***Claims 2-8 and 10-16*** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

3. The following is a statement of reasons for the indication of allowable subject matter:

Regarding **claim 2**, Younce discloses computing an estimate of the echo channel impulse response using a number of short finite impulse response filters represented by a second set of filter coefficients, however the prior art of record failed to disclose or fairly suggest computing an average error for each short finite impulse response filter, and identifying up to L short finite impulse response filters having a lowest average errors, where L is a predetermined maximum number of reflections tracked by the echo canceller.

Regarding **claim 10**, Younce discloses wherein the active tap detection logic is operably coupled to compute an estimate of the echo channel impulse response using a number of short finite impulse response filters represented by a second set of filter coefficients, however, the prior art of record fails to disclose or fairly suggest computing an average error for each short finite impulse response filter, and identify up to L short finite impulse response filters having a lowest average errors, where L is a predetermined maximum number of reflections tracked by the echo canceller.

***Citation of Pertinent Art***

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Yatrou et al. (United States Patent 5,343,522) discloses an adaptive sparse echo canceller using a sub-rate filter for active tap selection.

**Conclusion**

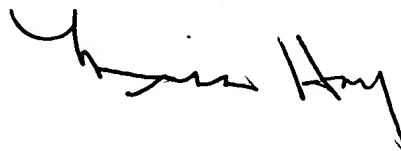
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jefferey F. Harold whose telephone number is (703) 306-5836. The examiner can normally be reached on Monday-Friday 7:30am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Forester W. Isen can be reached on (703) 305-4386. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.



JFH  
September 24, 2003



MINSUN OH HARVEY  
PRIMARY EXAMINER